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THE RELATIONAL THEORY OF CONSCIOUSNESS AND ITS REALISTIC IMPLICATIONS

ONE needs not to be a disciple either of Hegel or of Comte to recognize that there has been, in the methodology of the special sciences and in that of science as a whole, a certain historical procession or evolution of concepts, which has proceeded somewhat along the lines described by Ludwig Stein in an article printed in the *Archiv für Systematische Philosophie,* August, 1903, entitled 'Der Neo-Idealismus unserer Tage.'

In our first efforts to understand a thing we are apt to seize upon its most interesting and important characteristic, and attempt to explain its behavior in terms of that. The property thus singled out is felt to be the essence or substance of the thing, the other properties are thought of as accidents or attributes which are in some way supported by it. This is the first stage in the development of methodological concepts, the stage of definition, working by the category of *Substance.*

Sooner or later we realize the inadequacy of this attitude. The property which seemed from one point of view to be essential is from other points of view found to be less important, less worthy to constitute the true nature of the thing than the group of properties which were regarded as mere accidents. This discovery leads us to treat the object as a complex of qualities, none of them worthy to be called substance, but each worthy of investigation as a phenomenon. This is the second stage of methodological development, the stage of empirical description and analysis, working by the category of *Quality* or *State.*

But, as before we found that the substance or essence of a thing depended upon its attributes, so now we find that the attributes do not themselves determine the times and places of their occurrence, but depend in their turn upon the relations between other objects. We thus attain the third and final stage of scientific method, the stages of prediction and explanation, in which each object of study is viewed under the category of *Relation.* This method of *correlat-*

ing every phenomenon with a conditioning relation subsisting between other phenomena enables us to pass from one part of reality to another, and to bring together all discrete objects in the substitutional continuum of knowledge. The current view of the physical world as a mechanism or nexus of spatio-temporal relations, of which all the qualities, whether essential or accidental, between which the relations subsist are viewed as symbols of one another, is the general outcome and the most striking illustration of our third stage of methodological evolution. But, in the progress of special branches of physical science, the final triumph of the relational method is equally obvious. Light and heat, for example, which were first viewed as occult substances, and later analyzed and described in terms of their various manifestations, are now finally correlated with the relations of motion which accompany them, and which determine the time, place and degree of their occurrence. In the same way, the movement of the planets at first ascribed to quasi-personal essences by the scholastics, and, second, described and analyzed by Keppler, was, thirdly, scientifically or predictively explained in relational terms by Newton. It is of course true that some of the sciences have been unable fully to realize the relational ideal. In biology, for example, while we no longer regard life as an occult substance or force, we are still in large measure limited to the analysis and classification of its phenomena; we are as yet unable adequately to explain life, *i. e.,* to express it as a relation or function of other things. But the ideal of the biologist is, I take it, the same as the ideal of other scientists. And he would be glad to correlate vital phenomena with some particular type of spatio-temporal relation for the same reason that the physicist is glad to correlate a color or a tone with a definite rate of oscillation.

So far we have been considering the methodology of the physical sciences, the study of the objects of consciousness. We have seen that in that field of study the category of substance has given rise to the category of quality, which has in its turn made way for the category of relation. When we turn to the psychological study of consciousness itself, as the phenomenon of *awareness*, we might expect perhaps to find a similar methodological development. To a very limited extent such an expectation would be fulfilled. Descartes, Spinoza and Leibniz do in a measure represent in their several conceptions of consciousness the three stages and categories which we have been considering. For Descartes consciousness is a substance, for Spinoza it is a series or complex of qualities corresponding point to point with the physical series, while for Leibniz consciousness is a relation. In a remarkable passage in the *Monadology,* Leibniz explains the conscious or apperceptive state of a monad as consisting in the organization in the monad of its *petits perceptions* with regard to some one of them as a center. As the world organized with reference to some one of its points is a monad or substance, so the monad organized with reference to one of its qualities is consciousness. Thus mind and world, consciousness and unconsciousness, are not, as with Descartes, different substances, nor, as with Spinoza, different attributes or qualities. They are of the same substance and the same qualities, their difference is entirely a difference of relation. It is a matter of regret that the relational theory of consciousness thus clearly formulated by Leibniz should have been so bound up with his peculiar metaphysical views that it failed to gain any notable recognition or development at the hands of his successors. And what applies to Leibniz in this matter applies equally to Herbart. For Herbart, too, developed a relational view of consciousness, which, like the Leibnizian view, failed to gain general acceptance by reason of the metaphysical doctrines with which it was entangled. In fact, modern conceptions of consciousness have been dominated almost entirely by the more primitive attitudes of Descartes and Spinoza. In both England and Germany consciousness has been treated as a substance in which the apparently independent objects of the experienced world inhered as dependent states or 'ideas,' which is the attitude of Locke and Berkeley no less than of Kant and Fichte. Or else, after the manner of Spinoza, consciousness has been conceived as a series of purely secondary qualities, running parallel to the stream of purely primary qualities supposed to constitute the material world. For the first or Cartesian view interaction is at once a necessity and an impossibility, while in the second or Spinozistic conception all the artificialities of parallelism are inevitably implied. In short, we do not find in the history of the science of consciousness that abandonment of the categories of substance and state and that definite adoption of the category of relation which are so manifest in the history of the objective sciences. And if it be admitted that progress in physical science has been nearly proportional to the degree to which the relational or mechanical ideal has been accepted, we might infer that the relatively backward state of psychology is due, not so much to the intrinsic difficulties of its subject-matter, as to its persistent use of methodological categories which are elsewhere outworn and discredited.

In view of this general situation it is encouraging to note that within a comparatively recent time several writers have inaugurated a movement to put consciousness on a par with other objects of study, by investigating it under the category of Relation. Mach in Germany, Bawden, James and Woodbridge in America, in relative independence of one another, and in complete independence of Leibnizian and Herbartian precedents, have formulated the difference between physical and psychical as a difference of relational context rather than as a difference of substance, or a difference of quality. We must admit, however, that gratifying as these new formulations of the relational theory of consciousness undoubtedly are, most of them suffer from the taint of that very subjective and non-relational view which they are intended to replace. Mach,[1] for example, uses the term 'sensation' to denote the primary elements which are to stand as the terms both of the physical and of the psychical order of relation, thus implying that both physical and psychical are ultimately modes of the psychical. With Professor Bawden's functional view of the physical and psychical,[2] I find the same difficulty; for that view, if I understand it, would also make consciousness the ultimate reality within which the physical and psychical orders are differentiated in response to the pragmatic needs of the conscious experience itself. In the theory of Radical Empiricism, recently promulgated by Professor James,[3] there is less of subjectivism than in either of the foregoing, and yet here also the primal elements of reality are described by the psychical term 'pure experience.' Even a *pure* experience implies a consciousness of it; its *esse* depends upon *percipi*. Then again Professor James's adherence to the 'humanistic' theory of knowledge, which to many of its critics *appears* to regard axioms as postulates, and to hold that propositions owe their truth to the fact that people believe them, would seem to indicate that despite certain undeniably realistic features 'radical empiricism' is not quite free from the subjectivism of Berkeley and Hume. Professor Woodbridge's statement[4] of the relational theory stands out in contrast to the formulations thus far considered, in that it contains a recognition that objects and truths do not depend for their existence or nature upon any consciousness of them, and that they are for that reason not to be described by any such psychical terms as sensations or mental needs or pure experiences, but rather as real and independent *objects* in space and time, which are sometimes related in the continuum of consciousness and sometimes not.

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[1] 'Analysis of Sensations.'

[2] 'The Necessity from the Standpoint of Scientific Method of a Reconstruction of the Ideas of the Psychical and Physical.' JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, Vol. I., No. 3, pp. 62–68.

[3] 'Does Consciousness Exist?' *ibid.*, Vol. I., No. 18, pp. 477–491. *Cf.* also Dr. R. B. Perry's able article on 'Conceptions and Misconceptions of Consciousness.' *Psychi. Rev.* XI, pp. 282–296.

[4] 'The Nature of Consciousness,' this JOURNAL, Vol. II., No. 5, pp. 119–125.

And this brings me to what I regard as the first and fundamental implication of the relational theory of consciousness, viz., realism—a complete abandonment of the Cartesian, Berkeleian and Kantian view of the conscious self as a substance in which objects must inhere in order to be real or true. All relations presuppose the existence of terms between which they subsist. If consciousness is at length to submit to the same scientific treatment that we accord to other phenomena—*i. e.,* if it is to be equated to a mode of relation between things—it must inevitably be regarded as secondary to those things. Consciousness, in short, must be thought of as inhering in its objects rather than its objects inhering in it. In fact the new relational theory of consciousness is in every sense correlative to the old realistic theory of the objects of consciousness. If consciousness is a relation, objects of consciousness must be real independently of their standing in that relation, while conversely, if objects are real independently of a consciousness or knowledge of them, then that consciousness or knowledge can not be anything other than a relation between them.

Assuming the truth of this correlation, I shall use the terms realism and relationalism interchangeably, in the hope of making more clear the new conception of consciousness by identifying it with the more familiar realistic view. And in the remainder of my paper I wish to consider: (1) The agreement of this conception (*a*) with the instincts of common sense, and (*b*) with the facts of science; (2) the objections which have been made to the theory by idealists or non-relationists.

First, then, the relational theory is admittedly in accordance with common sense, which naturally thinks of the physical world as passing in and out of our consciousness without gain or loss of existence. Consciousness of objects is supposed to depend upon the relation of the object to our eyes, ears and skin. And it is quite impossible for an unsophisticated person to imagine that objects which pass from his field of view thereby cease to exist.

Again, the scientist, and especially the physiologist, is at one with the plain man in treating consciousness as a relation. For him, the perceiving of an object depends upon the relation of the brain to the stimulus received from the object. His realism is not, to be sure, so naïve as that of unreflective common sense, for he recognizes the personal equation—the inevitable distortion of perspective which results from having to perceive things through the imperfect media of brain and nerves. But his whole science rests on the supposition that consciousness does enlighten us as to the nature of objects, not indeed as to what they might possibly be apart from all relations, but as to what they actually are in relation to our brain.

So much by way of a brief statement of the essential agreement of the relational theory with instinctive beliefs and with the conclusions of science. We pass now to our second point—a consideration of the arguments against conceiving consciousness as a mode of connection between the organism and its environment.

The idealists from Descartes to Fichte have urged two lines of objection. They have claimed, first, that objects of immediate perception are intuitively known to be states of the knower. To this the realist replies by denying the supposed intuition. That is to say, he denies that there is anything in his consciousness *of* objects that can be interpreted as implying their dependence *on* his consciousness. *Cogito ergo sum* is to him not a whit more certain or primary than *Cogitatur ergo est.* Consciousness appears as a purely diaphanous medium which in no way supports or alters its objects. But, secondly, the more empirically minded idealists, those, for example, of the British school, are inclined to help out the first or Cartesian argument by pointing to the dependence of perceived objects upon their relation to our sense-organs. This so-called physiological argument, which would infer a dependence of objects upon a non-physical mind by appealing to the fact that they are always perceived in relation to a physical body, is an obvious *non sequitur.* So far as I can see, all of the arguments for idealism are simply elaborations of one or the other of these two lines of appeal.

There is, however, one consideration or assumption which, though hardly to be classed as an idealistic argument, has nevertheless lent some color of validity to the paralogism just mentioned. I refer to the doctrine accepted by the majority of physicists of the subjective nature of the 'secondary qualities.' As things stand at present, the idealist can always say to his opponent: "You grant that colors, sounds and odors have no objective existence; why should you not be consistent, and grant also that the space, time and mass relations (which are inconceivable apart from these or some similarly specific qualities) are subjective also?"

Now, there are few more unjust decrees in the history of scientific legislation than the sentence of banishment from the physical world which, at the beginning of the seventeenth century, was pronounced upon the secondary qualities. As soon as the modern investigator discovered that scholastic science was fundamentally wrong in that it failed to perceive that the secondary quality or specific nature of a phenomenon was, as such, of no use in determining the time, place and intensity of its occurrence, he jumped to the conclusion that all genuine qualities were subjective.

The prime error of the scholastic philosophy of nature did not consist in 'filling space with substantial forms,' or, as we should now say, in recognizing that with every quantity, or extensive mode of energy, there is correlated a quality, or intensive mode of energy,—what the panpsychist would call a sensation. The scholastic error did not, I say, consist in the objectivization of qualities, for, panpsychism aside, we do not hesitate at the present day to fill the brain with substantial forms or, in the modern phrasing, to correlate psychical with neural processes; and if the complex phenomena of our conscious experience can be correlated with protoplasmic changes, there is no reason to suppose that simple, though equally specific, qualities are not correlated with changes in inorganic matter.[5] The real error of the scholastics lay, as we have already said, in the belief that these substantial forms or objective qualities were causally effective, and that they determined by their specific natures the times and places of their occurrence. The only way to *predict* the where and when of a thing is to find its relations to the where and when of other things. That is the mechanical theory. But, because the time and place of a thing can only be scientifically expressed as a function of other relations of time and place, it by no means follows that times and places are empty or void of specific natures, and that the physical world is a set of relations without terms, of primary qualities without secondary qualities.

Air waves stimulate the auditory nerve, and sound is manifested; hydrogen unites with oxygen, and water is manifested—a substance differing from its components both in primary and in secondary qualities. Yet we do not hold that water is subjective and hydrogen and oxygen objective. Why should we hold that sound is more subjective than water? Like every object, the secondary quality depends for its manifestation upon the relations of other objects. But this observable dependence of sensible objects upon physical and physiological relations does not imply an unobservable dependence upon consciousness.

I would call special attention to the status of the secondary qualities in connection with the relational theory, for the following reason: As long as the secondary qualities are accepted as objectively real there is no temptation to regard consciousness as anything *but* a relation. The physical world is a self-supporting system if it possesses the concreteness of secondary qualities, and as such needs not to inhere in any mind in order to exist. On the other hand, if the physical world is void of all specific natures, and is only a regress of spatial and temporal relations, then it is not self-supporting, but must be regarded as parallel to or inherent in consciousness. Berkeley would never have dreamed of regarding the perceived world as a subjective state if he had not inherited from Locke and Descartes the mistaken inference that, in the case of the secondary qualities, relativity to the body implied dependence on the mind. He simply extended this inference with perfect consistency to the primary qualities, while his predecessor had applied it only to the secondary qualities.

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[5] The distinctive function of protoplasm may consist, not in creating new qualities, but in giving a new relational form to qualities that normally occur anywhere. In the *American Journal of Psychology*, for January, 1904, the present writer, in support of this statement, suggested a relational theory of consciousness in which the psychical in general is identified with the 'specious present,' which is the simplest or limiting case of memory.

If the world of concretely perceived facts is real, consciousness must be a relation between them. The realistic theory of the world and the relational theory of consciousness are, as we have already said, implied in each other. This recognition of the identity of the two theories will be slow in coming, for the reason that the relationists, from Mach to James, have been by sympathy and training idealists of one type or another, and they are naturally loth to recognize the incompatibility of their later conclusion that consciousness is a relation subsisting among objects with their earlier belief in consciousness as a substance in which objects must subsist. And yet the day may come when Mr. Russell's recent aphorism, that a truth no more depends on the knowing of it than an apple upon the eating of it, will be regarded, not as a paradox, but as a truism. If philosophy is to achieve any such deliverance from subjectivism, I think that it will be effected by the demands on the part of psychologists for a relational view of consciousness.[6]

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[6] In order to bring together the various points of the paper I subjoin the following summary: Every object of study, except consciousness, has first been regarded as a substance, second, as a group of qualities, third, as a relation between other objects. The conceptions of consciousness, however, if we except the theories of Leibniz and Herbart, have generally alternated between the first and second of the methodological categories. Recently, several philosophers have independently suggested that the relational category should be applied in the study of consciousness as well as in the study of its objects, that the phenomenon of consciousness, of awareness, should be correlated with such relations between other phenomena as will best explain its function and its origin. The relational theory of consciousness, however, implies a realistic theory of sensible qualities, both primary and secondary. And, conversely, when once this realism is recognized, there is no temptation to relapse into either of the idealistic or non-relational conceptions of consciousness. This paper was written for the fourth meeting of the American Philosophical Association at Philadelphia, December, 1904.